

Indiana's Pre-Kindergarten Initiative

**A comprehensive policy review and fiscal
impact report on a state-funded pre-
kindergarten program in Indiana.**

Prepared by the Center for
Education & Career
Innovation and the Office of
Management & Budget

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Executive Summary

- Indiana is one of nine states that does not currently provide some form of state-funded Pre-Kindergarten (“Pre-K”), and is the only state in the Midwest not to do so.
- Pre-K refers to targeted programming for children ages 3-5 years that emphasizes school readiness. Pre-K is distinct from childcare services for children ages 0-5 that focus primarily on health and safety outcomes.
- Numerous research studies have concluded that there are positive short- and long-term educational, social, and economic outcomes for Pre-K programs serving children from low-income families.
- These studies generally take into account not only academic achievement, but also reduced public expenditures on educational programs, reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity contributing to additional tax revenue.
- Critics of Pre-K programs suggest that improvements in student educational achievement levels “fade out,” i.e., the academic gains shown by students who participate in Pre-K programs disappear by 3rd or 4th grade.
- Indiana can maximize the benefits of Pre-K by designing and implementing a school readiness program that is limited to four-year-olds from low-income families, and includes a rigorous accountability system to ensure both quality inputs and also positive learning outcomes.
- The Center for Education & Career Innovation (“CECI”) recommends developing a voluntary, high-quality Pre-K program modeled from certain aspects of Florida’s voluntary Pre-K program. Emerging academic outcomes data from Florida show promising results.
- HB1004 establishes a five-county pilot program to provide a voucher for four-year-olds who are eligible for free and reduced priced lunch (“F&R”). The voucher could be used by families for either a full-day (\$6,800) or half-day (\$3,400) Pre-K program offered by eligible public and private providers.

Fiscal Impact Estimate: HB1004

<i>(Utilization as % of HB1004-Eligible Population)</i>	25% Utilization	50% Utilization	75% Utilization	100% Utilization
Software <i>(Startup + Ongoing Costs)</i>	\$180,000	\$180,000	\$180,000	\$180,000
Ongoing Personnel	\$153,663	\$153,663	\$153,663	\$153,663
Pre-K Pilot Vouchers	\$2,534,118	\$5,068,237	\$7,602,355	\$10,136,474
New Choice Voucher <i>(Assumes FY 2017)</i>	\$27,324	\$54,648	\$81,972	\$109,296
Total Cost	\$2,895,106	\$5,456,548	\$8,017,991	\$10,579,433

- Assuming five counties of average population, the Indiana Office of Management and Budget (“OMB”) estimates that approximately 1,500 F&R-eligible four-year-olds would qualify for the HB1004 pilot. OMB estimates initial start-up costs for the Indiana Family and Social Services Administration (“FSSA”), which would be responsible for administering the pilot voucher program, to be approximately \$650,000.
- OMB estimates pilot program costs of **\$10,600,000** at 100% utilization, beginning in fiscal year 2016.
- Sources of state funding could include a combination of new state appropriations and re-purposed federal and state CCDF dollars, as recommended by the Early Learning Advisory Committee (“ELAC”) established by the General Assembly in 2013.

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Pre-Kindergarten Policy Discussion

Studies indicate that Pre-K can have a significant and lasting impact on a range of important adult outcomes.¹ Further, many of these studies conclude that the long-term effects from Pre-K programs have a greater positive impact than programs focusing on later stage remediation.² Remedial programs for children and youth with cognitive limitations generally have had a poor record of success.³ In addition, public job training programs, adult literacy services, prisoner rehabilitation programs, and education programs for disadvantaged adults have yielded low economic returns, with the returns for males often being negative.⁴ Even when later intervention shows benefits, the performance of these children is often still behind the performance of children who participated in quality Pre-K programs.⁵

Numerous research studies have concluded that there are positive short- and long-term educational, social, and economic outcomes for Pre-K programs, especially for children from low-income families. These studies generally take into account not only academic achievement, but also reduced public expenditures on educational programs, reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity contributing to additional tax revenue. The estimates of benefits per child served, net of program costs, range from about \$1,400 per child to nearly \$240,000 per child.⁶ This translates into a ROI to the state for each dollar invested from \$1.80 to \$17.07.⁷

Critics of early education and its impact often point to the fact that student gains “fade out” or “converge” and can no longer be seen after several years of schooling. It is relevant to note that some of the literature criticizing early education outcomes does not distinguish between **Pre-K**, which is defined as “an educational program for preschool-age children (typically three- and four-year-old children) with the explicit goal of providing enhanced age-appropriate experiences to improve school readiness,” and **childcare**, which refers to “basic child care programs for children ages 0-5 that focus on health and safety measures.”⁸ Moreover, test scores (and their convergence in elementary school) are not necessarily the only measure of Pre-K success. Even in programs with fadeout in achievement tests, children who enroll in early education go on to show positive effects for high school graduation, reduced teen pregnancy, years of education completed, increased lifetime earnings, and reduced crime. These impacts are larger for children living in or near poverty.

National Landscape

In 2012, there were approximately 52 state-funded Pre-K programs in 40 states and the District of Columbia, and only Hawaii, Idaho, Indiana, Mississippi, Montana, New Hampshire, North Dakota, South Dakota, Utah, Wyoming did not have some form of state funded Pre-K (Mississippi enacted a Pre-K program in 2013).⁹ Nineteen states and the District of Columbia have some form of universal Pre-K or Universal Pre-K programs.¹⁰ Twenty-seven states (not including the District of Columbia) have targeted Pre-K programs with income limitations.¹¹ In 2012, the average state dollars spent for all Pre-K programs (full-day or half-day) in the U.S was approximately \$3,841 per child.¹² When local, federal and Temporary Assistance for Needy Families (“TANF” - the federal welfare program) funding is included, this figure increases to \$4,596 per child.¹³ The average state

dollars spent by neighboring states (Illinois, Kentucky, Michigan & Ohio), was approximately \$3,800 per child for half-day programs. The National Institute for Early Education Research (“NIEER”) estimates the cost for an optimal Pre-K program in Indiana is \$4,253 per child.¹⁴

Evidence Supporting Pre-K

A large number of research studies conducted over the last 50 years have concluded that there are positive short- and long-term educational, social, and economic outcomes for Pre-K programs, which are particularly meaningful for children from low-income families. The three Pre-K programs most often cited as evidence of the benefits of Pre-K are High/Scope Perry Preschool, the Chicago Child-Parent Centers program, and the Abecedarian Project.

The High/Scope Perry Preschool Project study tracked 123 high-risk children born in poverty.¹⁵ From 1962–1967, at ages 3 and 4, the subjects were randomly divided into a program group that received a high-quality Pre-K program and a comparison group who received no Pre-K program. The intensive half-day program offered small classes, teacher home visits, and detailed advice on how parents could assist with the promotion of cognitive and social development in the home. The study found that, at age 40, individuals who had the Pre-K program had higher earnings (averaging \$5,000 a year more), were more likely to hold a job (76% vs. 62%), had committed fewer violent or drug-related crimes, and were more likely to have graduated from high school than adults who did not have Pre-K. The study identified costs of \$17,599 and lifetime benefits of \$284,086 per participant.¹⁶ Almost \$200,000 of the estimated benefits resulted from reduced crime costs; only 35% of the participants were arrested five times or more in a 20-year period compared to 70% for non-participants. Costs to the K-12 educational system were reduced by \$9,787 per participant and lifetime participant earnings were increased by \$74,878.¹⁷

In the Chicago Child-Parent Centers study,¹⁸ researchers evaluated 1,539 children who participated in a Pre-K program in low-income Chicago neighborhoods from 1983-1986. The program provided Pre-K in public schools along with family support services to low-income families. These children were measured against other children from similar neighborhoods who were assigned to random, external preschool programs. The two groups were followed for 15 years following the intervention. The study found that participating children had a 29% higher rate of high school completion, a 33% lower rate of juvenile arrest, a 42% lower rate of arrests for violent crime, a 41% lower rate of special education placement, a 40% lower rate of grade retention, and a 51% lower rate of child maltreatment. Costs per participant were \$8,224 and lifetime benefits were estimated to be \$83,511.¹⁹ Savings attributed to reduced crime costs were \$41,100 per participant and lifetime earnings increases were \$34,123.²⁰

The Abecedarian Project study examined Pre-K provided to children from disadvantaged backgrounds born between 1972 and 1977 in North Carolina.²¹ The sample size was 111 children. The services were provided on a full-day, year-round basis; had a low teacher-child ratio (ranging from 1:3 for infants to 1:6 for 5-year-olds); and used a systematic curriculum of “educational games” emphasizing language development and cognitive skills. The costs were \$70,697 per participant compared to an estimated \$176,284 in cumulative benefits.²² The

study found that, by age 21, children who participated in the program had increases in reading and math achievement as well as modest increases in full-scale and verbal IQ, tended to complete more education, had a higher rate of post-secondary education (36% vs. 14%), a higher rate of having skilled jobs (47% vs. 27%) and were less likely to be a teen-aged parent (26% vs. 45%). The study did not examine or include reduced crime costs in the analysis. Costs to the K-12 education system were reduced by \$9,841 per participant and lifetime earnings increased by \$41,801.²³

All three of the above studies tracked the participants in the respective Pre-K programs well into adulthood and thus provide valuable longitudinal data about the educational, economic and social impact of the programs studied. Proponents of Pre-K point out that all three programs resulted in significant, measurable benefits to both the participants and to society at large.

In 1975, the New York State Education Department began a longitudinal evaluation of its Experimental Pre-Kindergarten (“EPK”) program. Data was collected from 1975 to 1982 on participating children’s test results, family background, teacher ratings, attendance, teachers’ observations, parent participation and children’s progress through school. The study found a \$7 return for every \$1 invested and concluded that the program was particularly effective for children from low-income families.²⁴

A study examining the effect of targeted Pre-K in Texas for disadvantaged children found positive effects ranging between 5% and 10% of one standard deviation²⁵ in 3rd grade state test scores with the greatest positive gains by children both economically disadvantaged and limited English proficient.²⁶

In 2010, researchers from the University of Colorado released a meta-analysis of 123 comparative studies of early childhood interventions conducted over fifty years that were mostly focused on children from low-income families.²⁷ The study found “significant” effects for children who attend Pre-K programs, both in cognitive outcomes, social skills and school process. Specifically, the researchers found that by third grade about one-third of the achievement gap is closed by Pre-K education; if only rigorous studies were included, the researchers concluded that the immediate impact on cognitive development was to close about 70% of the achievement gap. The study found that cognitive gains from Pre-K programs tended to be larger when programs focus on intentional teaching, small group learning, and individualized teaching and that Pre-K programs designed to emphasize these features were estimated to produce long-term cognitive effects equivalent in size to one half or more of the achievement gap between minority and white children or low-income and other children through the end of high school.

Several studies have examined the intensive, full-day Pre-K program offered in the “Abbott” districts of New Jersey for three- and four-year-olds as a result of a class action lawsuit aimed at improving the equity and adequacy of funding for the lowest-income school districts. Residents in the Abbott districts were guaranteed access to high quality Pre-K programs as part of the court-ordered package of education services, including state-of-the-art facilities, a 1:10 staffing ratio, and teachers with a bachelor’s degree with a Pre-K specialization.²⁸ The programs served 43,543 Pre-K children in 2011-12 at an average cost to the State of \$12,846 per pupil. In 5th grade, the Abbott Pre-K program had a persistent positive impact on math and language scores; the gains were equivalent to six months of grade-level math and eight months of grade-level

language arts.²⁹ The study also shows that children who received two years of Pre-K education at ages three and four experienced markedly larger gains than children with just one year of Pre-K, suggesting that the intensity and length of Pre-K interventions have an impact on their effectiveness.

A 2004 study from the Yale University Child Study Center examining state efforts to evaluate the effects of Pre-K from 1977-2003 found that Michigan, Maryland and New York all reported statistically significant effects in both literacy and math for individuals participating in a Pre-K program.³⁰ For Michigan, at fourth grade, 24% more Pre-K participants passed the Michigan Educational Assessment Program literacy test and 16% more passed the mathematics test. The study found significant impacts in Maryland for both reading and math in fifth, eighth, ninth, and tenth (for math only) grades and significant impacts in New York for both reading and math in sixth grade. Across all three states, Pre-K participants were found to be 31% (Maryland at grade 10) to 44% (Maryland at grade 5 and Michigan at grade 3) less likely to have been retained for at least one grade level.

A 2011 study from the Upjohn Institute for Employment Research examining Tulsa's Pre-K program³¹ found that children who qualify for free lunch were expected to experience percentage gains in terms of adult earnings benefits that were nearly twice as large as full-price-lunch children in half-day programs. The differential was even larger for children in full-day programs. The study found that the dollar effects and benefit-cost ratios are similar across groups, with benefit-to-cost ratios of approximately 3 or 4 to 1. The study notes that because it was only considering the adult earnings benefit component, actual benefit-cost ratios were likely higher for disadvantaged children.³²

Evidence Against Pre-K Programs

Critics of Pre-K programs often point to Head Start,³³ the federal government's largest and longest running program providing free health, nutritional, social and cognitive development services for disadvantaged children ages birth to 5 years, noting it has failed to produce long-term academic advantages for participants.³⁴ One study of the Head Start program published in 2012 concluded that the initial positive effects of the program faded almost entirely by the time the children reached third grade. After just three years, Head Start children were virtually indistinguishable from the comparison group in cognitive and social-emotional outcomes.³⁵ It is relevant to note that Head Start's mission focuses primarily on providing free childcare services to low-income children beginning at birth, although there is an educational component as well.

Another study concluded that participants in Even Start (a small education program intended to integrate early education, adult education, and parenting education into "family literacy" programs in order to improve educational opportunities for low-income children and parents) did not make significantly greater gains compared with subjects not receiving services.³⁶ Specifically, the study found that Even Start children and adults made gains on literacy assessments, but not more than adults and children in the control group, two-thirds of whom received no adult or early childhood education services.

Critics of the High/Scope Perry Preschool, Chicago Child Parent Centers, and Abecedarian studies argue that the evaluated programs are not representative of the type of Pre-K or Kindergarten programs proposed by

today's policymakers and that, because of their small sample size, the results may not be applicable to larger public programs.³⁷ Both the High/Scope Perry Preschool Project and the Abecedarian studies had very small sample sizes (~100 children) and all three programs were multi-year intensive and costly interventions.³⁸ Critics argue that no universal Pre-K program has been able to prove that students are more likely to graduate from high school, hold a job, or form more stable families.³⁹

Many of the studies criticizing the outcomes of Pre-K programs tend to focus on universal programs offered to all children, not programs offered only to children from low-income families. A 2003 report examining the effectiveness of Georgia's universal Pre-K program concluded that participating children's academic, social and communication skills peaked in the first grade, then declined through second grade.⁴⁰ The study found that the average percentile test scores of children who remained on grade level in math, language arts, science and social studies all fell below the national average and were not systematically different from Georgia's average student performance.

A follow-up report, issued in 2005 by the same authors, found that children enrolled in the Pre-K program exceeded the national norm from Pre-K to the end of first grade on measures of receptive language (mean scores increased from 92.9 to 98.0), letter-word recognition (102.7 vs. 111.1), expressive language (90.7 vs. 98.8), and problem-solving, but noted that the same general pattern of gains was found for all children studied, including children who did not attend Pre-K at all.⁴¹ Further, the study concluded there was no statistical difference in student outcomes based on the Pre-K program attended (state-funded, Head Start, private Pre-K). However, the study did find children from very low-income families had stronger cognitive outcomes if they attended a state-provided Pre-K program.⁴²

Initial research of Oklahoma's Pre-K program indicated a positive, statistically significant impact on Kindergarten preparation, including an increase in cognitive/knowledge, language and motor skill scores.⁴³ However, a subsequent study by the Brookings Institution, which compared National Assessment of Education Progress ("NAEP") results for Georgia and Oklahoma to other states, concluded there were questions regarding the long-term impact on student reading level achievement.⁴⁴ The study noted that both Georgia and Oklahoma were in the bottom 10 performers on the percentage point change in fourth-grade reading tests between 1992 and 2005 on the NAEP. Oklahoma was the worst performer of all states in terms of gains in fourth-grade reading between 1992 and 2005, actually losing 4 percentage points.

A report analyzing the Tennessee voluntary Pre-K program found that by the end of first grade, there were no statistically significant differences between Pre-K participants and nonparticipants in achievement on assessments in literacy, language, and math.⁴⁵ The report concludes that, while academic achievement effects were not sustained past Kindergarten, there were indications of possible effects on important non-cognitive academic outcomes.⁴⁶

Finally, critics question the methodology used by some of the studies finding positive outcomes from Pre-K (e.g., the Tulsa and the Abbott studies). Specifically, these critics object to the use of an "age-cutoff regression discontinuity design" which potentially skews the statistical outcomes.⁴⁷ These critics argue that

properly designed third-party randomized trials generate estimates of positive effects that are much smaller than those being generated using the age-cutoff regression discontinuity design.⁴⁸

Lessons for Indiana

The Center for Evaluation & Education Policy Report

In March 2013, Indiana University's Center for Evaluation & Education Policy released an education policy brief examining the implementation of state-funded Pre-K in Indiana.⁴⁹ The brief distinguishes between Pre-K for three- and four-year-olds, and childcare services for children ages birth to five years. The authors note that "[t]he return on the investment of publicly funded prekindergarten programs that are derived from academic gains translates into significantly reduced public expenditures on educational programs, reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity contributing to additional tax revenue" and concludes that "[t]he research provides evidence that high-quality prekindergarten programs are a sound investment that generates revenue and tax savings that exceed the program costs."⁵⁰

The brief concludes that Indiana should fund voluntary, targeted Pre-K for at-risk four-year-olds and recommends a rigorous accountability system aligned to the research on evidence-based programs to ensure program providers are high-quality. Specifically, the brief recommends that the Indiana Pre-K program: 1) have a strong educational emphasis; 2) require programs to meet high standards of quality early education; 3) have evidence-based curricula; and 4) employ ongoing assessments and monitoring. The brief suggests that insufficient standards will most likely not bring about the desired educational outcomes among at-risk children or maximize Indiana's investment in the program.

A Florida Case Study

Certain aspects of Florida's universal voluntary Pre-K ("VPK") program, launched in 2005 as the result of a state constitutional amendment passed in 2002, could serve as a model for Indiana.⁵¹ Florida's program provides a \$2,400 voucher to families who choose to enroll their four-year-olds in Pre-K. Children can enroll in either a half-day, 180-day school-year or a full-day, 90-day summer program, offered by any eligible public or private provider. All public school districts are required to offer a summer program. The school-year program requires teachers to have at least a Child Development Associate or equivalent credential. The summer program requires teachers to have obtained a bachelor's degree. Beginning in 2011-2012, programs were required to follow "Florida Early Learning and Developmental Standards for Four-Year-Olds" which was adopted by the Florida State Board of Education in 2011. In the first year of the VPK program, approximately 49% of eligible students participated; 80% participation was not reached until the sixth year (2011-2012).⁵² More than 80 percent of participating children are served in non-public school settings such as child care centers, Head Start, and faith-based programs.⁵³

The VPK program focuses on reading proficiency by third grade and screens Kindergarteners within the first 30 days to determine school readiness.⁵⁴ The screening includes an early literacy measure and a

developmental measure.⁵⁵ Legislation passed in 2012 provided for the implementation of a pre-and post-assessment using the Florida VPK Assessment tool with the legislative intent to use the gains made by children while attending VPK as a component of the VPK Readiness Rates. Student Kindergarten screening scores are tied back to the Pre-K provider and used to develop provider ratings.⁵⁶ Seventy percent or more of a provider's students must be Kindergarten ready or the provider is subject to state intervention, including requiring the provider to submit a school improvement plan for approval, and to implement the plan, or placing the provider on probation and requiring corrective actions including the use of a Department of Education-approved curriculum or a staff development plan to strengthen instruction in language development and phonological awareness approved by the Department.⁵⁷ If a provider remains on probation for two consecutive years, fails to meet the minimum Kindergarten readiness rate, and is not granted a good cause exemption by the Department, they are no longer eligible to participate in the program.⁵⁸ The indicators to determine progress toward Kindergarten readiness are determined by the State Board once two successive years of assessment results are reported.

Initial results for students participating in the VPK program have been positive.⁵⁹ In 2012-2013, VPK participants outperformed nonparticipants on developmental Kindergarten readiness measures (95% ready vs. 92% ready) and on the Florida Assessments for Instruction in Reading (81% vs. 72%).⁶⁰ In 2008-2009 (the last year that the Dynamic Indicators of Basic Early Learning Skills (DIBELS) was used), VPK participants outperformed nonparticipants on Initial Sound Fluency (86% vs. 77%), but did worse on Letter Naming Fluency (73% vs. 77%).⁶¹

The emphasis on reading proficiency also ties in with Florida's policy to retain third graders who are not reading on grade level. As emphasized in the Florida Dept. of Education Statewide Literacy Plan, "it is easier to prevent literacy achievement gaps from starting during the early literacy years than it is to close achievement gaps once they have emerged."⁶² Florida recognizes that identifying students with reading difficulties early is critical so that students can receive remediation before third grade, and that a statewide structure promoting reading must be in place that recognizes literacy as a statewide priority.⁶³

Between the 2005-2006 school year (the first year of the VPK program) and the 2009-2010 school year (the last year the original Florida's Comprehensive Assessment Test (FCAT) was administered), the number of 3rd graders retained for not reading on grade level (e.g., a score below level 2 on the FCAT where level 1 is the lowest level) dropped from almost 10% to 6%.⁶⁴ The number of 3rd graders retained went up slightly in 2010-11 (to 7%) when Florida started administering a new, more rigorous, version of the FCAT and in 2011-12 (to 8%) when Florida increased the cut score for proficiency on the FCAT 2.0.⁶⁵ Further, VPK participants outperformed nonparticipants on the FCAT for 3rd grade for Reading (82% vs. 73%) and Math (86% vs. 77%).⁶⁶

House Bill 1004 Fiscal Impact Analysis

Every state is unique in its Pre-K funding structure.⁶⁷ Some states choose to fund Pre-K through their statewide school funding formula.⁶⁸ Other states have created a grant-based program, where traditional public, public charter, and private care providers can apply for and receive funds to initiate and maintain a Pre-K program. Some states limit their grant programs only to traditional public schools, leaving the decision of whether to initiate a local Pre-K program to the school. Other states require local government matching grants in varying amounts to help fund the state's Pre-K program. A handful of states have adapted their Pre-K funding formula to a "dollar follows the child" model, where eligibility for funding rests with the child. This system, commonly referred to as a "voucher" system, certifies student eligibility through a voucher application. The parent may thereafter use the voucher to pay for the child's Pre-K program at any provider the state deems eligible. Some states have tied provider eligibility to accountability metrics, while others only require the eligible provider to be a traditional public or public charter school. The funding structure of a Pre-K program usually reflects the state's priorities. Some states prefer that childcare be provided by traditional public schools and funded directly on that basis, while other states take a more consumer-driven approach in directly funding families on a per pupil basis.

HB1004 and Indiana's existing education funding structure align with the consumer-driven model by primarily organizing its educational fiscal policies on a "dollars follow the child" basis. In accordance with HB1004, the following analysis assumes that Indiana would provide the following:

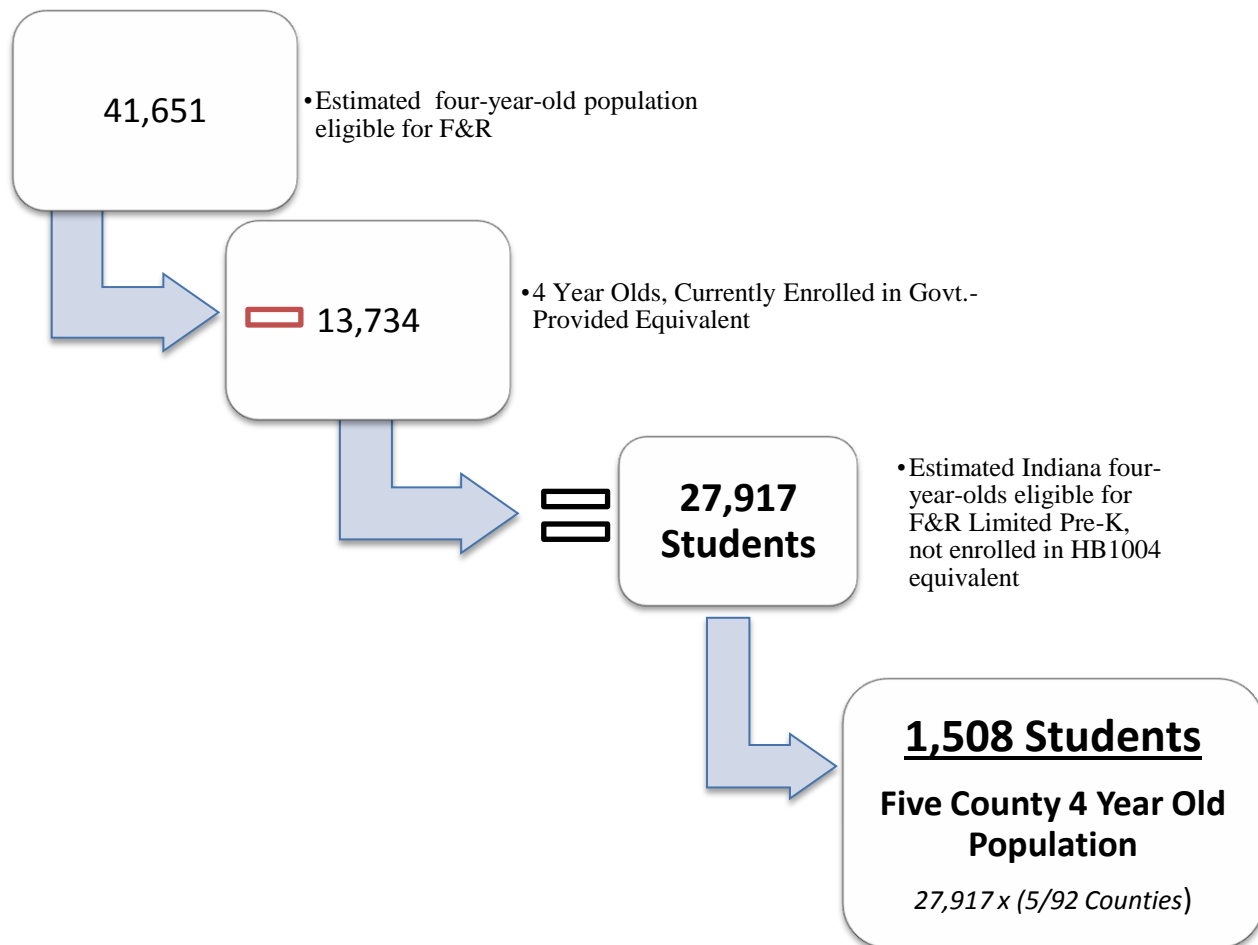
1. \$6,800 Full-Year (260-Day), Full-Day Voucher as described in House Bill 1004, *Early education vouchers*.
2. \$3,400 Full-Year (260-Day), Half-Day Voucher as described in House Bill 1004, *Early education vouchers*.

To estimate the fiscal impact of HB1004's pilot program, OMB first identified the population of eligible students. In HB1004, only four-year-olds within five Indiana counties (as determined by the Indiana Division of Family Resources ("DFR")) are eligible for the pilot. HB1004 also provides that eligible state and federal dollars currently being applied to early learning or preschool initiatives must be exhausted prior to the expenditure of new state dollars; thus, the students currently enrolled in government-provided equivalent programs are removed from the eligible population. Full-day and half-day voucher dollar values of \$6,800 and \$3,400 respectively are then applied to this population. Finally, non-programmatic administrative, IT, and voucher eligibility-related costs must be accounted for to arrive at the final value.

Population Estimate

In determining the total cost to the state of Indiana for any Pre-K program, the number of eligible participants must first be estimated. The following is based on HB1004's adoption of an F&R limited Pre-K pilot program. 185% of the federal poverty level is the threshold for reduced price meals (the threshold for free meals is 130%).⁶⁹ Indiana has a number of existing programs that provide some form of early learning, such as Head Start, Title I Pre-K, and the Child Care Development Fund ("CCDF").⁷⁰ However, in an effort to ensure that any

new Pre-K program complements rather than replaces existing similar but not identical programs, the following estimate excludes from the pool of eligible four-year-olds only those four-year-olds who are enrolled in Title I Pre-K, high-quality Head Start, and those CCDF providers who meet the standards of quality recognized by a Level 3 or Level 4 paths to QUALITY program rating.⁷¹ After narrowing the eligible population by HB1004's income limitations and excluding students already enrolled in equivalent government programs, OMB reduced the population to a five county estimate.⁷² See [Appendix A](#) for OMB's methodology and rationale in arriving at an eligible F&R four-year-old population.



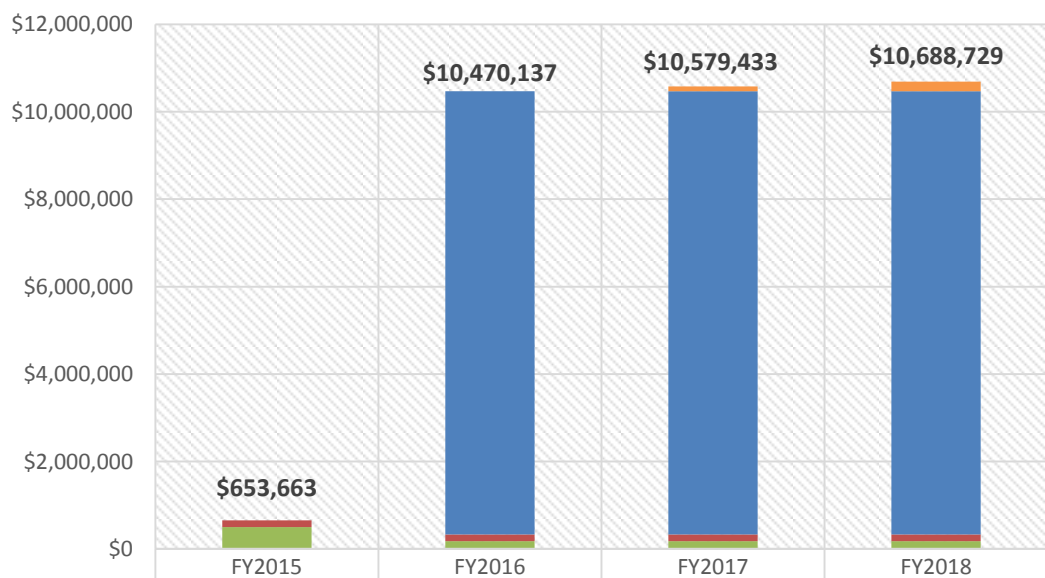
Voucher Cost Estimate

After estimating the population for the five eligible counties, the cost of the voucher was then applied to each eligible recipient to arrive at the final fiscal impact estimate. In estimating the number of full-day versus half-day recipients, OMB used fiscal year 2014 kindergarten program data, which enrolls 97.7% of students in full-day kindergarten and 2.3% in half-day kindergarten (See Appendix A., Step 4).⁷³ At these percentages, full-day students using a \$6,800 voucher are estimated to cost \$10,018,549 with half-day students using a \$3,400 voucher at \$117,925. Total voucher costs for both full- and half-time enrollees are estimated at \$10,136,474 beginning in fiscal year 2016.

Finally, the costs of new choice eligibility, IT, and administration of the program were added to the total voucher cost to arrive at an estimated total cost of \$10,579,433 in fiscal year 2016.⁷⁴ These costs are broken down as follows:

- FSSA Ongoing Personnel Estimates (See Appendix B):
 - \$153,663 for three full-time personnel beginning in fiscal year 2015.
- FSSA Software Estimates (See Appendix C):
 - \$500,000 high-end estimate for start-up software to process applications and track student/provider outcomes in accordance with HB1004.
 - \$180,000 high-end estimate for ongoing software and hardware maintenance and licensing.
- New Choice Eligibility Estimates:⁷⁵
 - \$109,296 estimated voucher payments from tuition support to F&R eligible families that would have paid for accredited non-public tuition without access to a choice scholarship.

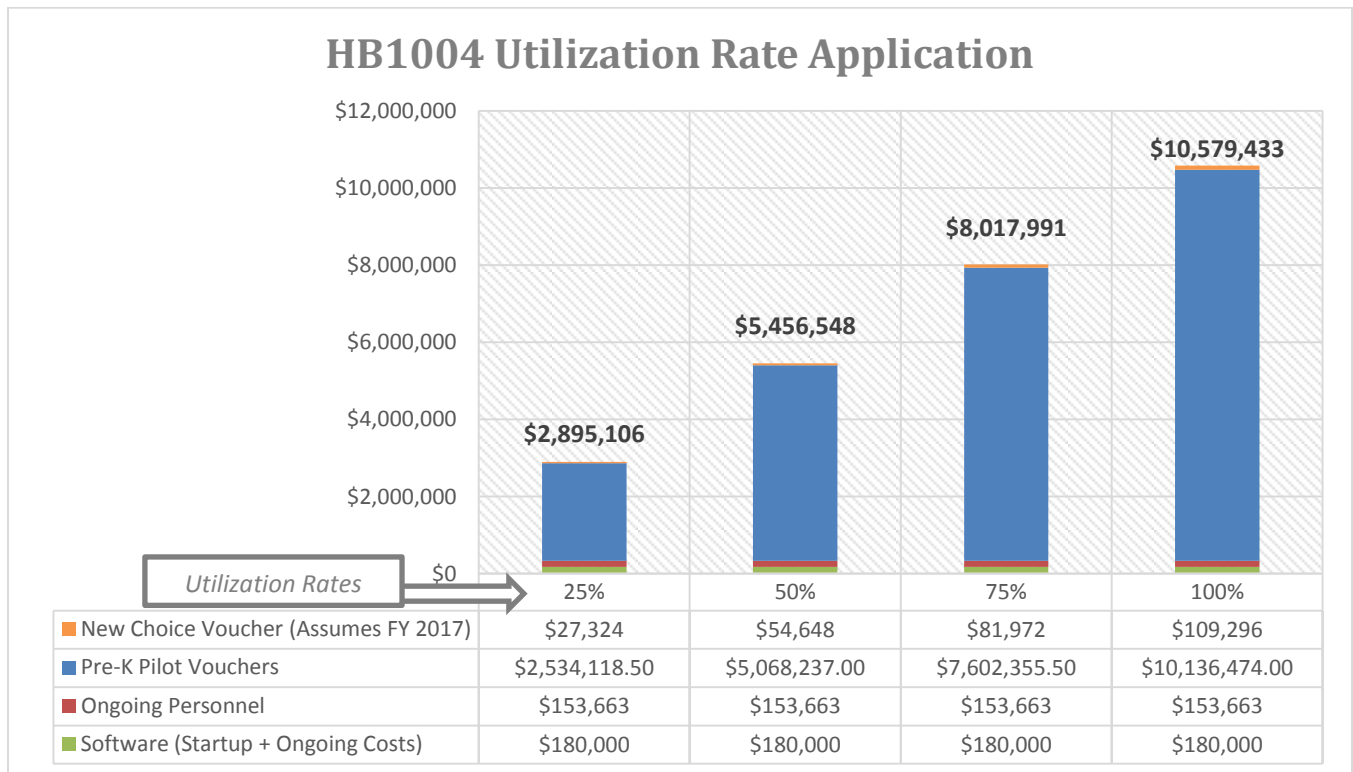
Pre-K Pilot Voucher Program Estimate - HB1004



	FY2015	FY2016	FY2017	FY2018
New Choice Voucher Recipient	\$0	\$0	\$109,296	\$218,592
Pre-K Pilot Program Vouchers	\$0	\$10,136,474	\$10,136,474	\$10,136,474
Ongoing Personnel	\$153,663	\$153,663	\$153,663	\$153,663
Software (Startup + Ongoing Costs)	\$500,000	\$180,000	\$180,000	\$180,000

Use of the Voucher

Thus far, the fiscal impact analysis has assumed 100% utilization by eligible students in HB1004's pilot program. OMB believes it is unlikely the eligible population will reach full utilization, due to HB1004's requirements of parental involvement, child attendance, and commitment to kindergarten enrollment for student eligibility.⁷⁶ Because there is no available information on which to base a utilization estimate, the graph below is provided to demonstrate the reduced fiscal impact specific utilization rates might have on the cost of the program.



Conclusion

Numerous research studies have concluded that there are positive short- and long-term educational, social, and economic outcomes for Pre-K programs for children from low-income families. Most of these studies have concluded that states receive positive returns on investment for Pre-K programs taking into account not only academic achievement, but also reduced public expenditures on educational programs, reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity, all contributing to additional tax revenue. The studies also find significant non-academic benefits to the participants, including increases in graduation rates, increased life earnings, and a lower likelihood of teen pregnancy and criminal incarceration.

The primary criticism of Pre-K programs is that there is evidence that improvements in student educational achievement levels may “fade out” over time. Other critics point to the failure of the federally funded Head Start program to produce long-term academic advantages. Still others argue that much of the data regarding the positive effects of Pre-K comes from three early studies of programs (specifically, the High/Scope Perry Preschool, Chicago Child Parent Centers, and Abecedarian studies) that are dissimilar from Pre-K programs proposed by today’s policymakers.

As a practical matter, almost all of the studies criticizing the outcomes of Pre-K focus on universal programs offered to all children, not programs offered only to low-income children. In addition, the studies criticizing Pre-K tend to discount or ignore the significant body of research detailing the benefits to both participants and society that are not purely related to achievement on academic indicators (e.g., reduced public expenditures on educational programs, reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity). Finally, Head Start is not an “apples-to-apples” benchmark for Pre-K, because Head Start is primarily a childcare program focused on health and safety indicators. To the extent Head Start does overlap with Pre-K programs, the design of Head Start programs varies widely across states, making it difficult to draw conclusions about the program in its entirety.

Indiana could maximize the benefits of Pre-K by implementing a program limited to four-year-olds from low-income families that is coupled with a rigorous accountability system to ensure program quality. Florida’s voluntary voucher program provides a model for Indiana, and Florida’s emerging longer-term academic outcomes provide a counter to the “fade out” argument. CECI recommends that Indiana create a targeted Pre-K voucher program for four-year-olds from families whose annual income does not exceed 185% of the federal poverty level. Families could utilize the voucher at either public or private providers, as long as providers meet pre-determined quality standards. Further, all providers should be subject to an accountability system that measures the kindergarten readiness of their students. Finally, the voucher could be used in either a school-year or an intensive summer program leading into Kindergarten. This would allow families to select the best learning option for their children.

OMB estimates that approximately 1,500 Indiana children would be eligible to participate in HB1004’s pilot program limited to eligible F&R four-year-olds. OMB estimates that a HB1004-based program providing a

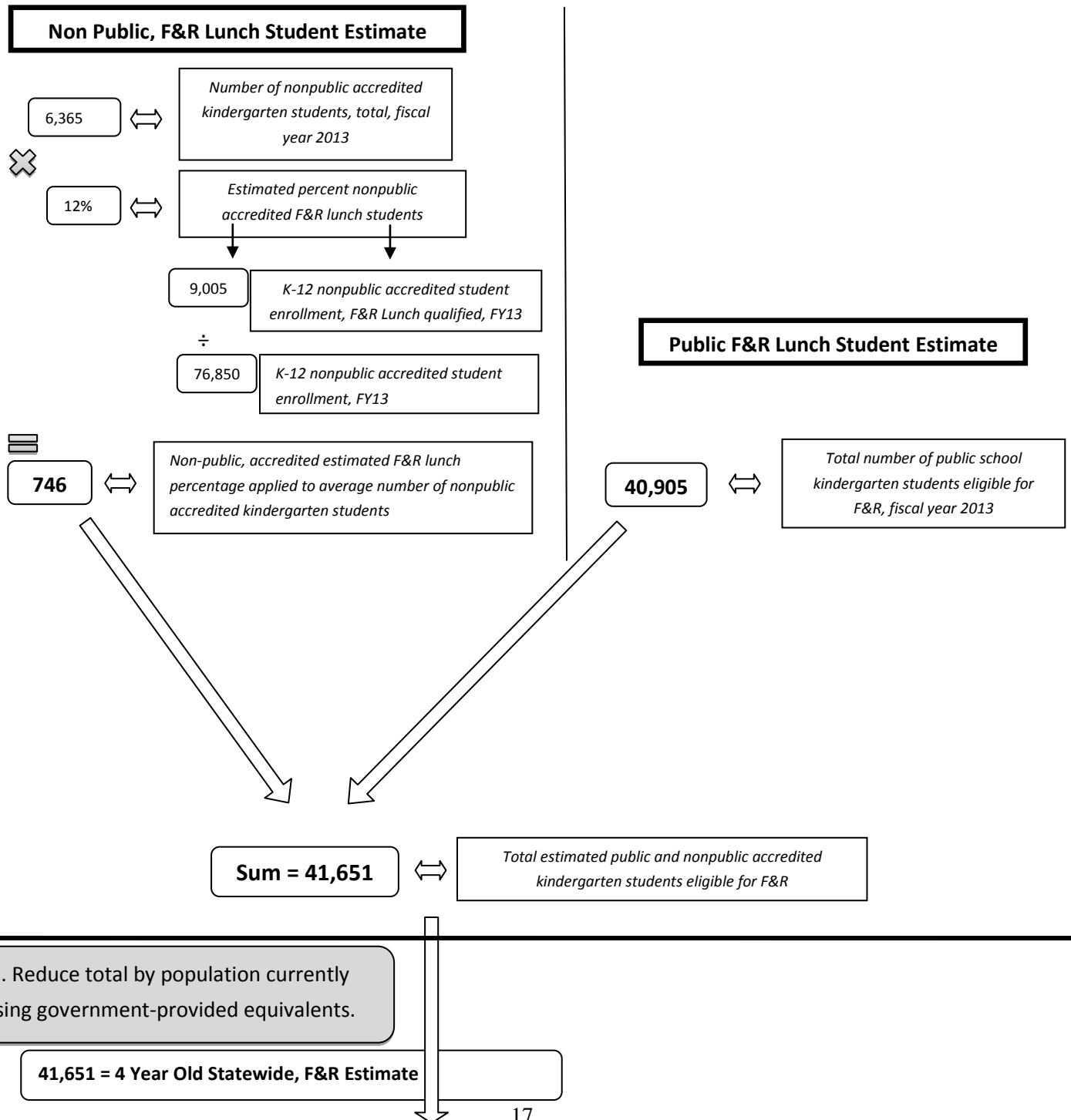
voucher of \$6,800 to full-time students and \$3,400 to half-time students could cost \$10,600,000 with full utilization.

While there would be some administrative costs undertaken by FSSA in fiscal year 2015, the pilot program requires funding from the General Assembly during the 2015 legislative session in order to support implementation starting in fiscal year 2016. CECI recommends that the ELAC, established by the General Assembly in 2013, study the flexibility of CCDF state matching dollars to determine how much funding could be repurposed without jeopardizing the federal funding that Indiana receives. CECI further recommends investigating whether the federal government will allow Head Start dollars to be repurposed for a Pre-K program funded by the state and designed as a voluntary voucher initiative. It should be noted that the timeline for determining flexibility and implementing any federally approved funding allocation changes could take a considerable amount of time, and this timetable would not necessarily be under the control of the ELAC or the state.

Appendix A

The formulation below demonstrates OMB's methodology and rationale for the HB1004 fiscal impact estimate:

1. Determine total 4-year -old Free or Reduced Price ("F&R") lunch population.



13,734 = 4 Year Olds, Currently Enrolled in Govt.-Provided Equivalent

2,604	Title I age 4 preschool students FY14. (60.46% estimate of combined FSSA 3 and 4 y/o program enrollment)
9,230	Head Start age 4 preschool students FY14. (60.46% estimate of combined FSSA 3 and 4 y/o program enrollment)
1,900	CCDF (Level 3 and 4 only), 4 y/o preschool students FY14. (56% estimate of combined FSSA 3 and 4 y/o program enrollment)

27,917 = 4 Year Old Statewide F&R Voucher Eligible

3. Apply 5
County Limit



.054 = 5 of 92 Counties. Assumes 5 selected counties will have average population when combined.



1,508 = 4 Year Old, 5 County Population F&R Estimate

4. Apply Full/Half Day Values

\$10,018,549 = 97.7% at Full Day, \$6,800 (replicates FDK)



\$117,925. = 2.3% at Half Day, \$3,400 (replicates FDK)



\$10,136,474= Sum of half and full day pilot pre-k voucher costs

Costs begin in FY'16

5. Choice
Costs



\$109,296/yr. = Eventual Choice Pre-K Recipients who would have paid for non-public K (27 students)

Costs begin in FY'17, but are added on top of last year's total with each year's class of voucher



\$10,245,770= Net Impact of Program

6. Admin
Costs



\$500,000 = High-End Software Start-Up Cost. FSSA Projection

Cost only applied to FY'15



\$333,663 = On-Going Costs (3 Staff and \$180K in Software Maintenance/Licensing). FSSA Projection

Costs begin in FY'16



FY'15: \$653,663 = Start-Up in FY'15 (\$500K software, \$154K personnel)

FY'16: \$10,470,137 = Ongoing Pilot Costs + \$154K personnel + \$180K software maintenance

FY'17+: \$10,579,433 = Ongoing Pilot Costs + \$154K personnel + \$180K software maintenance + \$164K Voucher

Appendix B⁷⁷

Staff needed to administer HB1004 as written 1/21/14

Overall Staffing Needs

Staffing would be needed full-time year round due to the increasing number of school districts and private Pre-K programs that operate full-year programming and meet the eligibility requirements for the scholarship. Family enrollment would be throughout the year as children may enter and leave the Pre-K program. Additionally, HB1004 allows for alternative programming such as summer school readiness programs.

Program Manager: anticipated starting salary \$38,000 plus benefits

- Responsible for policy development and implementation including documentation required for eligibility of both families and programs, program requirements for claims and reimbursement, child outcome measurements.
- Coordination between Head Start and CCDF to ensure that federal draw-downs are not compromised, that funds are utilized effectively and efficiently to maximize and leverage state and federal funds.
- Coordination with local Child Care Resource and Referral offices, CCDF intake offices, IDOE and the local school corporations with the goal to create an effective system of early childhood education that serves families in a coordinated way.
- Coordination with the ELAC on the use of the Kindergarten Readiness assessment tool selection, implementation and ongoing utilization and on other Early Learning goals and initiatives.
- Coordinate with third party researchers to gather data necessary to show evidence of the effectiveness of the pilot.
- Implement the probationary and termination process for programs that are not reaching required accountability standards.
- Oversight of the changes to the software system needed to ensure accurate payments, family eligibility, and longitudinal data system development between Pre-K and K-12 systems.
- Coordinate with IDOE, IAEYC, IACCRR and higher education to ensure that quality improvement supports are available as needed.
- Provide ongoing technical assistance to programs to ensure accountability, quality improvement and child outcomes.
- Development a model of family engagement as required, provide training and technical assistance to programs to ensure family engagement activities occur as required for participation.
- Develop a program agreement that outlines program requirements for participation.
- Develop and complete monthly, quarterly and annual program reporting as needed including school readiness measures.

Monitoring Human Services Consultant: \$30,000 plus benefits

- On-going monitoring of program integrity including the accuracy of payments received by programs, accuracy of family eligibility, cross matching of other programs to ensure that “double dipping” of federal and state benefits is not occurring.

- Coordinate with vendors responsible for the time and attendance payment system and the automated eligibility system to ensure accuracy and functionality needed for ongoing implementation of the program.
- Train and provide ongoing assistance to family eligibility intake offices on the enrollment of children in the program.
- Monitor fund utilization, family participation, program activity including child attendance and use of the POS machine and automated time and attendance payment system.
- Develop and complete monthly, quarterly and annual compliance and budget utilization reporting as needed.
- Collect, review and calculate assessment data to determine passage rate compliance, probations and termination of program eligibility.

Administrative Assistant: \$26,000 plus benefits

- Assist with program enrollment in the CCIS system needed to track program eligibility, including the completion of program agreements.
- Staff the ELAC meetings including meeting planning, room reservations, drafting and disseminating minutes and other documents.
- Assist with the enrollment of families in the AIS system, including the completion of family agreements.
- Assist with family/program communication including any potential negative action on eligibility and payments.
- Assist with outreach to families and programs to ensure consistent accurate information available to all and to promote participation of families most in need of Pre-K services.
- Assist with the assignment of a Student Test Number for the children attending private Pre-K programs.
- Assist with rule promulgation as needed.
- Assist with required reporting as needed.

Appendix C⁷⁸

PRE-K CHILD CARE PROGRAM ROUGH AUTOMATION ESTIMATES

Summary of Program- Assumptions:

Pre-K funds for a scholarship program at eligible facilities. For children to earn vouchers, children must be 4 years old and at or below 185% of the federal poverty level. There will be four reimbursement rates: 1) school year full-time; 2) school year part-time; 3) summer full-time; 4) summer part-time. Funding will be from Pre-K funds so these children will not be counted in CCDF reporting.

Pilot:

The program will initially start as a pilot program in five counties: Marion, Lake, 2 medium counties and 1 rural county.

Automation Considerations:

With many details of the program still unknown, it is challenging to provide specific costs for automating the program. An attempt is made here to estimate low, medium and high costs for major components of automating this program based on various options that could be selected.

Provider Requirements:

The costs of implementing an automated solution for tracking the requirements for providers participating in this program can range from no cost at all by utilizing existing systems to some significant costs.

Low: If the requirement is that participating providers must meet existing State of Indiana child care requirements, such as meeting Licensed Center or Home requirements and attaining the Paths to QUALITY Level 3 or 4 standards. Providers would be inspected with no changes to the tablet-based Wireless Webforms solution and tracked in CCIS with no changes needed to the software.

Med: Should there be additional or different requirements for a provider to participate than what currently exists, some modifications would be needed to the CCIS program to handle these variances.

High: For new requirements that don't currently exist, a new inspection form will likely be needed. This form could be integrated into the mobile Wireless Webforms technology to enable

inspectors to enter inspection results in a tablet while in the field and transfer that data to CCIS, as opposed to a paper-based inspection process.

Range	Description	Staff	Costs
Low	No changes necessary to CCIS or WW.	n/a	\$0
Med	Modifications on 2-3 screens in CCIS, possibly a new screen or two. Implementation of a new type of provider in software.	<ul style="list-style-type: none"> • PM, 80-160 hrs • 1 Developer, 80-160 hrs • Tester, 40-80 hrs • BA, 20-40 hrs 	\$12,500 - \$25,000
High	New screens, modifications to multiple existing screens and implementation of WW solution.	<ul style="list-style-type: none"> • PM, 120-240 hrs • 1 Developer, 120-240 hrs • WW tech, 80-160 hrs • Tester, 60-120 hrs • BA, 30-60 hrs 	\$25,000 - \$50,000

Eligibility and Voucher Tracking:

BCC currently utilizes the Automated Intake System (AIS) statewide for eligibility and voucher tracking in the CCDF program. This system has been in place for 10 years, was custom-built for the Indiana CCDF program and currently tracks only CCDF children and families, and interfaces with CCIS to import providers that are eligible to serve CCDF children.

Utilizing the existing AIS system to track a set of children, families and providers that have different eligibility requirements and are not to be included with the CCDF federal reporting would be a significant risk, particularly considering that the program is a pilot and only for 1,000 children (versus the 53,000 unique children that are served annually in the CCDF program).

It is recommended that the State of Indiana utilize a separate system to track participants in the Pre-K program to apply business rules unique to this program and eliminate the risk of negatively impacting the existing CCDF system. The Automated Child Eligibility System (ACES), a child care eligibility system developed by TCC is recommended for this project. TCC can provide the software itself at no cost to the state, with the only costs being in the customization and service costs of maintaining the system. The amount of time and costs of implementing the ACES system versus modifying the existing AIS system would most like be comparable, without many of the risks associated with modifying the existing AIS system.

The costs of customization can vary greatly depending on the amount of functionality needed for this system. Some components that can greatly affect the amount of customization include:

- **Complexity of Eligibility Requirements**
- **Source of Provider data**
- **Reporting**
- **Required Data Fields**
- **Interfaces**
- **Wait List**
- **Budgeting**
- **Scanning**

Range	Description	Staff	Costs
Low	3-4 months to stand up ACES, minimal amount of customization.	Development team with 2 programmers, tester, network admin, trainer, etc. (3-4 months). Two half time staff to maintain each year (help desk and tech).	\$120,000 - \$150,000 one time, \$100,000 per year to maintain.
Med	5-6 months to stand up ACES, medium amount of customization.	Development team with 2-3 programmers, tester, network admin, trainer, etc. (5-6 months). Two ¾ time staff to maintain each year (help desk and tech).	\$180,000 - \$250,000 one time, \$140,000 per year to maintain.
High	6-9 months to stand up ACES, large amount of customization.	Development team with 2 programmers, tester, network admin, trainer, etc. (6-9 months). Two full time staff to maintain each year (help desk and tech).	\$250,000 - \$350,000 one time, \$180,000 per year to maintain.

Payments:

The process and costs for paying providers can vary greatly based on the number of business rules for payments, the number of payment rate types, and who will be paying providers. There are risks and challenges in utilizing the current CCDF swipe card system.

Low: At a minimum, ACES would need the capability to track attendance. Provided the attendance rules are not very complex, this can be handled by a screen that the providers can access over the web to enter attendance. A report would then be produced to be delivered to FSSA Claims for payment to the providers on regular schedule.

Med: ACES could also interface with a payment entity to send data on payments directly to a payment vendor that would deposit funds in provider's checking accounts.

High: A POS device could be installed at each provider site to track attendance. If the current (or new CRO vendor) POS devices could be used, an updated interface to the CRO vendor would need to be developed and a significant amount of testing would be needed to ensure no impact to the existing interface and payment process. Without currently know the CCDF payment vendor in the future, there are a number of unknowns related to this option.

Range	Description	Staff	Costs
Low	Add a simple attendance tracking module to ACES, and send report to State for payment to providers.	<ul style="list-style-type: none"> PM, 80-160 hrs 1 Developer, 80-160 hrs Tester, 40-80 hrs BA, 20-40 hrs 	\$12,500 - \$25,000
Med	Add a more detailed attendance tracking system to ACES, additional reports and interface with a payment vendor.	<ul style="list-style-type: none"> PM, 120-240 hrs 1-2 Developers, 120-240 hrs Tester, 60-120 hrs BA, 30-60 hrs 	\$25,000 - \$75,000
High	Utilize a POS device to track attendance at each location. Build interface, test thoroughly, question about who CRO vendor will be in future.	<ul style="list-style-type: none"> PM, 80-160 hrs 2 Developers, 80-160 hrs Tester, 40-80 hrs BA, 20-40 hrs 	\$50,000 – \$150,000

Equipment:

Minimal equipment costs will include a new server for production ACES, and other associated hardware such as routers and firewalls. Hardware costs would rise if POS devices are needed, providers need PC's, etc.

Range	Description	Costs
Low – High	Server and associated equip	\$20,000 - \$60,000

TOTALS:

Range	Estimated One-Time Costs	Estimated Ongoing Annual Costs
Low	\$152,500 – \$235,000	\$100,000 / yr.
Med	\$257,500 -- \$390,000	\$140,000 / yr.
High	\$385,000 - \$610,000	\$180,000 / yr.

Endnotes

¹ See Knudsen, Eric, Heckman, James, Cameron, Judy, and Shonkoff, Jack (2006). Economic, neurobiological, and behavioral perspectives on building America's future workforce. *Proceedings of the National Academy of Sciences*, p.10161.

² See Cunha, Flavio, Heckman, James, Lochner, Lance and Masterov, Dimitriy (2005). Interpreting the Evidence on Life Cycle Skill Formation. In Eric Hanushel and Finis Welch (eds.). *Handbook of the Economics of Education* Vol. 1. Amsterdam: North-Holland, pp. 697-812; Yoshikawa, Hirokazu, Weiland, Christina, Brooks-Gunn, Jeanne, Burchinal, Margaret, Espinosa, Linda, Gormley, William, et. al. (2013, October). Investing in Our Future: The Evidence Base on Preschool Education. *Foundation for Child Development*; Heckman, James (2006, June). Skill Formation and the Economics of Investing in Disadvantaged Children. *Science*, p. 4 ("investment in early learning and development is more efficient and can generate more benefits than costs relative to investment later in the life cycle.").

³ Knudsen, Heckman, Cameron & Shonkoff (2006), p. 10157.

⁴ Cunha, Heckman, Lochner & Masterov (2005). See also Carneiro, P., Heckman, J. (2003). Human Capital Policy. In Alan Krueger and Benjamin Friedman (eds.). *Inequality in America: What Role for Human Capital Policies?* ch. 2, pp. 77-237.

⁵ Knudsen, Heckman, Cameron & Shonkoff (2006), p. 10157.

⁶ Karoly, L., Kilburn, M., and Cannon, J. (2005). *Early childhood interventions: Proven results, future promise. Monographs of the RAND Corporation*, p.133.

⁷ Spradlin, T., Conn-Powers, M. and Wodicka, C. (2013). *Is Indiana Ready for State-Funded Pre-K Programs? Revisited*, Education Policy Brief of the Center for Evaluation & Education Policy, p. 3.

⁸ *Id.*

⁹ Barnett, W., Carolan, M., Fitzgerald, J. and Squires, J. (2012). *The state of preschool 2012: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research, p. 7.

¹⁰ AL, D.C, FL, GA, IL, IA (SVPP Program), LA (the "8(g)" program), ME, MO, NV, NJ, NM, NY, OK, PA (the "EABG" and "K4" programs), RI, VT (the "Act 62" program), VA, WV, and WI (the "4k" program). Barnett, Carolan, Fitzgerald & Squires (2012), p. 173.

¹¹ AK (100% FPL), AZ (200% FPL), AR (90% @ 200% FPL), CA (70% state median income), CO (185% FPL), CT (60% @ 75% state median income), DE (90% @ 100% FPL), IA (the "Shared Visions" program - 130% FPL), KS (the "At-Risk" program - 130% FPL/the "Pre-K" program - 185% FPL), KY (150% FPL), LA (the "LA 4" program - 185% FPL/the "NSECD" program - 200% FPL), MD (185% FPL), MA (85% state median income), MI (75% @ 300% FPL), MN (90% @ 100% FPL), NE (185% FPL), NC (80% @ 75% state median income), NJ (the "ELLI" program - 185% FPL), OH (200% FPL), OR (80% @ 100% FPL), PA (the "HSSAP" program - 90% @ 100% FPL/the "SBPK" program - local determination/Pre-K Counts - 300% FPL), SC (the "4K" and "CDEPP" programs - 185% FPL), TN (185% FPL), TX (185% FPL), VT (the "EEI" program - 185% FPL), WA (90% @ 110% FPL), and WI (the "Head Start" program - 100% FPL). Barnett, Carolan, Fitzgerald & Squires (2012).

¹² *Id.* at 7.

¹³ Public funding for pre-K programs comes primarily from three sources: states; special education funds for pre-K (funded by the federal Individuals with Disabilities Education Act Part B, Sec. 619); and Head Start, the federal pre-K program for children in poverty. Some pre-K programs also receive funds from the federal Child Care and Development Fund and other federal social-services funds that provide block grants to states, TANF, or local governments. Another potential source of funding is from the U.S. Department of Education under Title I of the No Child Left Behind Act, which permits school districts to use federal Title I funding to pay for pre-K.

¹⁴ *Id.* at 20.

¹⁵ Schweinhart, L., Montie, J., Xiang, Z., Barnett, W., Belfield, C. and Nores, M. (2005). Lifetime effects: The HighScope Perry Preschool study through age 40, *Monographs of the HighScope Educational Research Foundation*, p. 14.

¹⁶ Barnett, W., Yarosz, D. (2007). *Who Goes to Preschool and Why Does it Matter?* New Brunswick, NJ: Rutgers Graduate School of Education, National Institute for Early Education Research, p. 11. Amounts are in constant 2006 dollars discounted at 3%.

¹⁷ *Id.*

¹⁸ Reynolds, Arthur, Temple, Judy, Robertson, Dylan and Mann, Emily (2002). Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers. *Institute for Research on Poverty*.

¹⁹ Barnett, W., Yarosz, D. (2007). p. 11.

²⁰ *Id.*

- ²¹ Campbell, Frances, Pungello, Elizabeth, Burchinal, Margaret, Kainz, Kirsten, Pan, Yi, Wasik, Barbara, et. al. (2012). Adult Outcomes as a Function of an Early Childhood Educational Program: An Abecedarian Project Follow-Up. *Development Psychology* 48, p. 1033.
- ²² Barnett, W., Yarosz, D. (2007). p. 11.
- ²³ *Id.*
- ²⁴ Irvine, David (1982). *Evaluation of the New York State Experimental Prekindergarten Program*. State Education Department.
- ²⁵ The black-white achievement gap on National Assessment of Education Progress is about 1 standard deviation; therefore, the Texas pre-K program eliminates up to 10% of the black-white achievement gap. Whitehurst, G., Can We Be Hard-Headed About Preschool? A Look at Universal and Targeted Pre-K. Brookings Institution (January 23, 2013), <http://www.brookings.edu/blogs/brown-center-chalkboard/posts/2013/01/23-prek-whitehurst> (last accessed January 7, 2014).
- ²⁶ Andrews, Rodney, Jargowsky, Paul and Kuhne, Kristin (2012, December). The Effects of Texas's Targeted Pre-Kindergarten Program on Academic Performance. *National Bureau of Economic Research Working Paper No. 18598*.
- ²⁷ Camilli, Gregory, Vargas, Sadako, Ryan, Sharon and Barnett, W. Steven (2010). Meta-Analysis of the Effects of Early Education Interventions on Cognitive and Social Development. *Teachers College Record* 112(3), p. 602.
- ²⁸ Puma, Mike, Bell, Stephen, Cook, Ronna, Heid, Camilla Broene, Pam, Jenkins, Frank, et. al. (2012). *Third Grade Follow-up to the Head Start Impact Study: Final Report*. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, p. xvi.
- ²⁹ Barnett, W., Jung, K., Youn, M., Frede, E. Abbott Preschool Program Longitudinal Effects Study: Fifth Grade Follow-Up (2013). New Brunswick, NJ: Rutgers Graduate School of Education, National Institute for Early Education Research, p. 17.
- ³⁰ Gilliam, Walter and Zigler, Edward (April 19, 2004). State Efforts to Evaluate the Effects of Prekindergarten: 1977 to 2003. New Haven, CT: Yale University Child Study Center.
- ³¹ Bartik, Timothy, Gormley, William and Adelstein, Shirley (2011). Earnings Benefits of Tulsa's Pre-K Program for Different Income Groups. *Upjohn Institute Working Paper*. W.E. Upjohn Institute for Employment Research.
- ³² *Id.* at 40.
- ³³ Head Start's mission is to "promotes the school readiness of children ages birth to 5 from low-income families by enhancing their cognitive, social and emotional development." Specifically, Head Start programs provide health, nutrition and social services to children and their families, in addition to education and cognitive development services.
- ³⁴ See, e.g., Doverspike, J., The False Promise of Universal Pre-kindergarten, *The Federalist* (October 17, 2013), <http://thefederalist.com/2013/10/17/false-promise-universal-Pre-Kindergarten/>, last accessed January 3, 2014.
- ³⁵ Puma, Bell, Cook, Heid, Broene, Jenkins, et. al. (2012), p. xvi-xvii. Note that some percentage of the children in the comparison group (about 13.8% of four year olds and 17.8% of three year olds) spent time in the Head Start program as well. *Id.* at xv. Other researchers have pointed out that the design and implementation quality of Head Start programs varies widely across states, making it difficult to draw conclusions about the program in its entirety. Still others point out that there are studies that show that Head Start children wind up completing more years of schooling, earning more, being healthier, and (in at least some studies) may be less likely to engage in criminal behavior. Yoshikawa, Weiland, Brooks-Gunn, Burchinal, Espinosa, Gormley, et. al. (2013).
- ³⁶ St. Pierre, R., Ricciuti, A., Tao, F., Creps, C., Swartz, J., Lee, W. and Parsad, A. (2003). *Third national Even Start evaluation: Program impacts and implications for improvement*. Washington, D.C.: U.S. Department of Education, Planning & Evaluation Service. Critics warn that the Even Start study was flawed in a number of aspects: i) the study did not reflect improvements to Even Start programs undertaken after changes in federal law in 2000 and 2001; ii) the study had a flawed data collection process; iii) the study did not include a representative sample of Even Start programs including programs that were implementing research and evidence-based practices and effectively integrating components and thus did not study the model as it was intended to operate. Goodling Institute for Research in Family Literacy (2003). *Counter to the Third National Even Start Evaluation: Program Impacts and Implications for Improvement*.
- ³⁷ Olsen, Darcy with Snell, Lisa (2006, May). Assessing Proposals for Preschool and Kindergarten: Essential Information for Parents, Taxpayers and Policymakers. *Reason Foundation Policy Study*.
- ³⁸ Whitehurst (January 2013).
- ³⁹ See Doverspike (2013).
- ⁴⁰ Henry, G., Gordon, C., Henderson, L., and Ponder, B. (2003). *Georgia Pre-K Longitudinal Study: Final Report 1996-2001*. Atlanta, GA: Georgia State University Applied Research Center.
- ⁴¹ Henry, G., Rickman, D., Gordon, C., Henderson, L., Ponder, B., and Mashburn, A. (2005). *The Georgia Early Childhood Study 2001-2004, Final Report*. Atlanta, GA: Georgia State University Applied Research Center.
- ⁴² *Id.* at 83.

⁴³ Gormley, W. and Gayer, T. (2005). Promoting School Readiness in Oklahoma: An Evaluation of Tulsa's Pre-K Program. *The Journal of Human Resources*, Vol. 40, No. 3, pp. 533-558.

⁴⁴ Cascio, E. and Schanzenbach, D. (2013). The Impacts of Expanding Access to High-Quality Preschool Education. Economic Studies at Brookings, Final Conference Draft presented at the fall 2013 Brookings Panel on Economic Activity.

⁴⁵ Lipsey, M. W., Hofer, K. G., Dong, N., Farran, D. C. & Bilbrey, C. (2013). *Evaluation of the Tennessee Voluntary Prekindergarten Program: Kindergarten and first grade follow-up results from the randomized control design*. Nashville, TN: Vanderbilt University, Peabody Research Institute. There were, however, significant positive effects on Kindergarten teachers' ratings of children's preparedness for Kindergarten and, to a lesser extent, on their ratings of the children's classroom work behavior and social behavior.

⁴⁶ *Id.* at 53.

⁴⁷ Whitehurst G. and Armor, D., *Obama's Preschool Proposal is Not Based on Sound Research*, Brookings Institution (July 24, 2013), <http://www.brookings.edu/blogs/brown-center-chalkboard/posts/2013/07/24-preschool-proposal-whitehurst> (last accessed January 7, 2014). The studies work as follows: "If a state or other jurisdiction requires that children be 4-years-old by October 1 in order to enter the pre-K program, then children who just made the deadline by having been born in late September four years earlier can attend the pre-K program whereas those born in early October have to wait a year. Researchers take advantage of this arbitrary age cutoff by administering tests of academic skills to the children who are just entering kindergarten, having completed the pre-K program the previous year (the treatment group), and to the children who are just entering that same pre-K program (the control group). The researchers then compare test scores for the beginning kindergarten treatment group to the beginning pre-K control group. Since test scores depend on age, they adjust statistically for the one-year difference in the average chronological age of the two groups, and they conclude that any test score difference between the two groups represents the causal impact of the pre-K program." *Id.*

⁴⁸ The two studies the critics cite as examples of properly designed third-party randomized trials are the Even Start study, discussed in footnote 36 and accompanying text, and a multisite evaluation of 14 preschool curricula (not programs) conducted by the U.S. Department of Education that found that ten out of the fourteen curricula showed no statistically significant impact on student level measures, while only five showed a statistically significant impact on some measures. Preschool Curriculum Evaluation Research Consortium (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education. Washington, DC: U.S. Government Print Office.

⁴⁹ Spradlin, Conn-Powers, and Wodicka (2013). The brief was a follow-up to an earlier report on the same topic released in 2006. Conn-Powers, M., Cross, A., and Zapf, J. (2006). *Closing the Achievement Gap Series: Part I Is Indiana Ready for State-Sponsored Prekindergarten Programs?* Education Policy Brief of the Center for Evaluation & Education Policy.

⁵⁰ Spradlin, Conn-Powers & Wodicka (2013), p. 13.

⁵¹ Amendment 8 on the November 5, 2002 election ballot in Florida amended Article IX, Section 1 of the Florida Constitution to require the establishment of free voluntary universal pre-kindergarten. See Fla. Stat. Ann. §§1002.51 – 1002-79.

⁵² Office of Economic and Demographic Research, Voluntary Prekindergarten Education Estimating Conference (Feb. 24, 2012), p. 2, available at <http://edr.state.fl.us/content/conferences/vpk/archives/120224vpk.pdf> (last accessed January 7, 2014). See also Florida House of Representatives, Education Fact Sheets (2013), ch. 2, p. 3; Florida Voluntary Pre-Kindergarten Program, NIEER Summary, available at http://nieer.org/sites/nieer/files/Florida_0.pdf (last accessed January 7, 2014).

⁵³ *Id.*

⁵⁴ Fla. Stat. Ann. §1002.69(1).

⁵⁵ Florida uses the Florida Kindergarten Readiness Screener (FLKRS), which is composed of two screening instruments: A subset of the Early Childhood Observation System (ECHOS), which is an observational instrument used to monitor the skills, knowledge, and behaviors a student demonstrates or needs to develop. Skills, knowledge, and behaviors measured include language and literacy, mathematics, social and personal skills, science, social studies, physical development and fitness, and creative arts; and the Florida Assessments for Instruction in Reading (FAIR) developed by DOE in partnership with the Florida Center for Reading Research. FAIR is comprised of a progress monitoring assessment of letter naming ability and phonemic awareness and a diagnostic assessment measuring listening comprehension and vocabulary. See Florida Department of Education, Florida Kindergarten Readiness Screener (FLKRS) (February 2013), available at <http://www.floridaearlylearning.com/sites/www/Uploads/files/Oel%20Resources/FloridaKindergartenReadinessScreenerFLKRSBrochure-Feb%281%29.pdf> (last accessed January 7, 2014); Florida Department of Education, Kindergarten Assessment: History and Legislative Authority, at 2 (Nov. 2, 2009), available at <http://www.floridaearlylearning.com/sites/www/Uploads/HistoryOfKindergartenAssessmentInFlorida.pdf> (last accessed January 7, 2014); Florida Department of Education, Florida Kindergarten Readiness Screener: 2009-10 Overview, at 11 (June

2009), available at <http://www.floridaearlylearning.com/sites/www/Uploads/files/Providers/ogfo.pdf> (last accessed January 7, 2014). *See also generally*, <https://vpk.fldoe.org/>.

⁵⁶ Rule 6A-1.099821(3)(a), Fla. Admin. Code.

⁵⁷ Fla. Stat. Ann. §1002.67(3)(c)1.-2.

⁵⁸ Fla. Stat. Ann. §1002.67(3)(c)4.

⁵⁹ Flanagan, K. and Greenberg, A. (2013). Early Care and Education Pre- and Post-Assessment Study. American Institutes for Research.

⁶⁰ Florida House of Representatives, Education Fact Sheets (2013), ch. 2, p. 7.

⁶¹ *Id.*

⁶² Florida Department of Education State Literacy Plan (2011-2012), p. 3, available at <http://www.justreadflorida.com/pdf/StrivingReaders.pdf> (last accessed January 7, 2014).

⁶³ *Id.*

⁶⁴ *See* Florida Department of Education and Foundation for Excellence in Education, *Early Literacy and Florida's Third Grade Policy*, a presentation at the Southern Legislative Conference (July 28, 2013), p. 10, available at http://www.slcatlanta.org/AL2013/presentations/AL2013_Ed_Miller_Lee_Reading.pdf (last accessed January 7, 2014).

⁶⁵ *Id.*

⁶⁶ Florida Department of Education Office of Early Learning Report, FLKRS and FCAT Results by VPK Participation and Completion, Status for the 2006-07 VPK Cohort, pp. 24-26.

⁶⁷ *See* Barnett, Carolan, Fitzgerald & Squires (2012).

⁶⁸ *See* Spradlin, Conn-Powers & Wodicka (2013), p. 7-8. In Indiana, this would translate into a policy similar to how the state funds Kindergarten, where the funds come from the state's Tuition Support appropriation and maintains statutory similarities to grades 1-12 formula, while also maintaining specific differences.

⁶⁹ 2013-2014 USDA Food & Nutrition Services Child Nutrition Programs - Income Eligibility Guidelines.

⁷⁰ Current government program enrollment data obtained from FSSA is broken down as follows: Title I Pre-K = 4,307; Head Start (slots available) = 15,266; CCDF = 10,291.

⁷¹ **Title I** - The total number of four-year-olds participating in Title I Pre-K is unknown. However, an analysis of the NIEER reports for the last two years suggest that approximately 60.46% of those children enrolled in Indiana's currently existing early education programs are four-year olds. *See* Barnett, Carolan, Fitzgerald & Squires (2012), p. 17; Barnett, W., Carolan, M., Fitzgerald, J. & Squires, J. (2011). *The state of preschool 2011: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research, p. 16. Therefore the report estimates that 60.46% (or 2,604) of the children enrolled in Title I Pre-K are four-year-olds and assumes that the existing Title-I Pre-K program will maintain similar usage in the future.

CCDF - According to FSSA, there are over 700 level 3 and level 4 providers across the state. Since level 3 and level 4 programs are closely monitored and are required to meet key quality indicators including teacher education, ongoing training and must utilize a curriculum that aligns with the Early Learning Guidelines, these 1,900 children are receiving high quality Pre-K services, funded by existing federal CCDF dollars.

Head Start - According to FSSA, there are 15,266 Head Start slots available in Indiana for three and four year olds. OMB utilized the estimate of 60.46% derived from NIERR historical 3 and 4 year old enrollment data to arrive at an estimated 4 year old enrollment figure of 9,230 students. *See* Barnett, Carolan, Fitzgerald & Squires (2012), p. 17; Barnett, W., Carolan, M., Fitzgerald, J. & Squires, J. (2011). *The state of preschool 2011: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research, p. 16.

⁷² The estimate assumes counties of average population size because HB1004 does not specify which Indiana counties will be selected for the pilot. HB1004 requires that selected counties be representative of rural and urban populations. Should the counties selected for the pilot have aggregated populations larger than the average county population, the fiscal impact estimate would increase accordingly.

⁷³ OMB recognizes certain dissimilarities between Indiana's Full-Day Kindergarten program and the proposed HB1004 Pre-K voucher program, but ultimately decided to apply the chosen enrollment percentages because the age of the students are so close in proximity to each other. Additionally, Indiana's kindergarten program has a half-time option.

⁷⁴ All administrative and IT costs were received from FSSA policy staff. *See* Appendix B and C for estimate details.

⁷⁵ The cost of new choice scholarship eligibility is caused by students that receive a choice scholarship voucher, who would have paid for accredited non-public school without the voucher. OMB data shows that 1.8% of Indiana kindergarteners decided to attend accredited, non-public school despite the availability of state funded Full-Day Kindergarten. OMB used Full Day Kindergarten data to form an estimate that 27 children in each class of voucher recipients would have paid for accredited non-public school if never offered a choice scholarship by multiplying the program's final eligible population by 1.8%.

⁷⁶ *See* HB1004, January 13th, 2014 update, Page 5, definition of "eligible child."

⁷⁷ Fitzpatrick, M. (2008). *Starting School at Four: The Effect of Universal Pre-Kindergarten on Children's Academic Achievement*. The B.E. Journal of Economic Analysis and Policy 8(1), 46.

⁷⁸ Cunha, Heckman, Lochner & Masterov (2005), p. 10.